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Letter
Original

June 17, 1987

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Dear
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:

Enclosed is a report from INPUT's Market Analysis and Planning Service (MAPS) entitled U.S. Information Services Cross-Industry Markets, 1986-1991, Other Cross-Industry Sector.

This report covers electronic publishing, graphics, sales, marketing and distribution, word processing, and miscellaneous applications.

The report is a part of a series entitled U.S. Information Services Industry-Specific and Cross-Industry Markets. The report should be filed in the binder of that name in Section IV - Other Cross-Industry with the tabs provided. All tabs are filed alphabetically in each section.

A Table of Contents, which includes all the reports shipped to date for these volumes, is enclosed for your reference and should be filed with the Title Page in Volume I.

If you have any questions or comments, please call me at (415) 960-3990. INPUT, as always, welcomes the opportunity to assist you in the effective use of its information, reports, and services.

Yours truly,

Michael Cohn
Program Manager
Market Analysis and Planning Service

MC:ml

Enclosure

Market Analysis and Planning Services (MAPS)

U.S. Information Services Cross-Industry Markets 1986-1991

Other Cross-Industry Sector

INPUT®

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U.S. INFORMATION SERVICES
CROSS-INDUSTRY MARKETS, 1986-1991
OTHER CROSS-INDUSTRY SECTOR

MAY 1987

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U.S. INFORMATION SERVICES
CROSS-INDUSTRY MARKETS, 1986-1991
OTHER CROSS-INDUSTRY SECTOR

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U.S. INFORMATION SERVICES

CROSS-INDUSTRY MARKETS, 1986-1991

OTHER CROSS-INDUSTRY SECTOR

EXHIBITS

I ISSUES, TRENDS, AND EVENTS

A. INTRODUCTION

- The applications included in the other cross-industry sector forecast are:
  - Electronic publishing.
  - Graphics.
  - Sales, marketing, and distribution.
  - Word processing.
  - Miscellaneous.
- Electronic publishing uses computer systems and peripherals to produce high-quality printed materials that can combine text and graphics. Electronic publishing on mainframe and minicomputers is called corporate electronic publishing and on microcomputers is called desktop publishing.
- The graphics segment includes business graphics and presentation graphics as well as mapping.

- Some of the application areas included in the sales, marketing, and distribution segment are sales and marketing management, sales and marketing productivity, sales forecasting and analysis, direct marketing/response, telemarketing, market research, and distributuion management, accounting, and analysis.

- The miscellaneous segment includes applications such as voice mail, electronic mail, and integrated office systems (e.g., DEC's All-in-One and IBM's PROFS).

B. ELECTRONIC PUBLISHING

- Corporate electronic publishing on mainframes and minicomputers is used primarily by companies that need to generate large volumes of long or complex reports, proposals, technical documents, product documentation, directories, or catalogs. Previously, these companies contracted with commercial typesetters and off-premises printer organizations.

- The desktop publishing market began in early 1985 when Apple Computer, Inc. introduced the LaserWriter, combined it with the Macintosh and special software, and promoted the package as a low-cost way to produce high-quality memos, newsletters, price sheets, labels, and overhead foils. This is also when Aldus Corporation introduced its PageMaker page layout software product.

- There are many benefits derived from electronic publishing, including the following:

  - Improved control over turnaround time. Since projects are done in-house, competition for resources and priority are within the company instead of against a commercial graphics vendor's other customers.

- Time and cost savings in correcting errors. Errors can be caught and corrected on the screen or from the output.

- A relatively short payback period. Commercial typesetting and graphic design is expensive. Through electronic publishing users can achieve high-quality composition and drafting at a fraction of the cost.

• However, some potential users are hesitant to purchase electronic/desktop publishing systems for the following reasons:

  - Evolving hardware technology. The quality, speed, and resolution of laser printers is constantly improving. Companies in certain industries are waiting for the market to develop before purchasing.

  - Unstable pricing. Due to advancing technology, prices have dropped. Increased competition in hardware, including that from foreign vendors, is heating up. Competition between vendors to increase market share has also contributed to lower prices.

  - Confusion. A large amount of attention has been given to desktop publishing since 1985. The number of vendors offering desktop publishing systems and software has mushroomed in the same period. Potential users need to be educated and assisted in choosing and purchasing the components of a system that will fit their needs.

  - Lack of a PC-compatible solution. Many users are committed to an IBM PC-compatible hardware strategy. It is only very recently that software has been made available in the PC environment.

  - Lack of an IBM directional statement. It was not until March 1987 that IBM expressed its initial plans to incorporate PostScript, thereby showing some direction for its customers.

- As technology continues to develop, lower investment costs for desktop publishing will result. In May 1987 Ashton-Tate introduced a desktop publishing package that runs on the current installed base of personal computers without requiring additional purchases of mouses, high-resolution monitors, accelerator cards, or graphics cards.

- Another trend is increased use of alternative input devices such as image scanners and optical character recognition (OCR) devices. Several vendors have introduced products to support these input devices, and many other vendors have products in development.

  - Adobe Systems' new product, Illustrator, allows users to work with scanned images to embellish and fill out these images to create complex art.

- With IBM's March 1987 agreement to license Adobe Systems' PostScript page description language, PostScript has become the de facto industry standard.

  - More than 15 vendors in addition to Apple currently ship products using PostScript, and many software vendors have or are developing applications that support PostScript.

  - PostScript's competition includes Imagen's DDL-document description language and Xerox's Interpress.

    - Imagen and Hewlett-Packard, Imagen's customer, were expected to deliver product with DDL in mid-1987. However, H-P decided to use PostScript or a PostScript compatible.

    - Xerox has already shipped product with a reduced functionality (non-editable) version of Interpress, but only for its very high-end laser printer--the Xerox 9700.

- The basic components of an electronic publishing system are hardware; a CPU or 32-bit workstation; a page description language to bridge the CPU and laser printer; applications software; and input and output devices such as image scanners, optical character recognition (OCR) devices, laser printers, typesetters, and slidemakers.

  - An example of a corporate electronic publishing system is Interleaf's Technical Publishing Software turnkey system which includes a 32-bit workstation, a bit-mapped screen, Technical Publishing Software, a Structured Document Editor, a laser printer, and other peripheral devices.

  - An example of a desktop publishing system includes a Macintosh, MacDraw, MacPaint, MacWrite, Aldus' PageMaker, and a LaserWriter using PostScript.

C. GRAPHICS

- Since the early 1980s there has been a heavy emphasis on graphics. Many current graphics users acquainted themselves with graphics through such integrated packages as Lotus 1-2-3, SuperCalc, or Framework.

  - With the increased awareness of graphics, the proliferation of graphics software products, the improved ease in the use of software, and growing computer literacy, many businesses have increased their use of graphics and brought graphics functions in-house.

  - Although the majority of graphics are used in reports, the use of computer-integrated graphics in presentations is growing rapidly. There is also a migration from monochrome to color graphics and to alternative output mediums including color slides.

- Some of the leading vendors of microcomputer software have acknowledged the need for improved graphics capabilities by acquiring the rights to graphics software packages or acquiring graphic software companies. Major acquisitions include Decision Resources by Ashton-Tate, Graphic Communications by Lotus Development, and various graphics and graphics-related products by Software Publishing.

- Since personal computers (PCs) were introduced, users have used mainframe applications from their PCs. However, with the introduction of the IBM PC-AT, the migration of mainframe applications to the PC level has increased.

- Some of the major concerns of the use of PC graphic applications include the speed of processing, the quality of output, the difference between the screen image and the final output, and the cost between alternatives.

  - Improved/faster microprocessors including the Intel 80286 (PC-AT) and 80386 (introduced in late 1986) and the Motorola 68000 combined with improved operating speeds of these chips allows for faster graphics processing.

  - Another trend is for graphics processing to be included on the motherboard or graphics card which allows for faster processing.

  - Introduction of high resolution laser printers and graphics plotters allow for high-quality output. As technology advances, high-quality alternate output devices such as slidemakers will become more affordable.

  - Improved graphics cards and color monitors are allowing more colors and higher resolution so that users have a more accurate idea on screen of what output will look like.

        - IBM has introduced Video Graphics Array (VGA) for improved graphics capability. There are concerns that the new standards are not fully compatible with the CGA and EGA standards now in use.

        - Many software vendors and users have supported EGA, which has the most momentum behind it to be the de facto industry standard for graphics on PCs.

        - Some board and monitor manufacturers are making products that adapt to the user's graphic standard.

    - Improved and advancing technology and increased competition as well as high volumes are lowering graphics software prices.

- The mainframe and minicomputer graphics market is affected by some of the same issues and trends as in the microcomputer market.

    - The increasing sophistication of output devices, e.g., laser printers, and the lower prices due to economies of scale and improved cost-effective technology will help persuade more companies to produce graphics internally.

    - Advancing computer technology on mainframe and minicomputers is improving processing speeds and memory capacities while costs are lowering. This makes purchase of these systems more cost-effective than before.

- Graphics vendors are addressing mainframe and workstation combinations that would allow programs to be run locally on workstations and then outputted from any of the graphics output devices that are hooked up to the mainframe.

- Because of the emphasis on personal computers, some graphics vendors are introducing products that will allow downloading of graphics functions onto PCs.

- With the spreading use of graphics in the corporate environment, vendors are trying to make their systems more user friendly so that business executives can execute their own charts and exhibits with very little training. Some vendors are accomplishing this task by offering menu commands or natural language commands.

- Despite the acquisition of ISSCO by Computer Associates in December 1986 and the discontinued acquisition negotiations between Pansophic and SPSS, the trend toward acquisition of graphics software companies is not seen in the minicomputer and mainframe market.

D. SALES, MARKETING, AND DISTRIBUTION

- Until the late 1970s very few systems were developed specifically for sales and marketing functions. Even now, in those companies whose sales and marketing departments are automated, the majority of sales and marketing managers still use integrated software packages, spreadsheets, data base management systems, and other general decision support systems.

- However, there is a trend toward developing specialized applications software that takes into account the specific needs of the sales and marketing departments.

- The specialized applications of most interest include the following:

  - Marketing data base systems which contain customer and prospect account information and histories. Some of the systems available now

allow users to show customer ordering patterns, track prospects, integrate purchased or rented mail lists, or accomplish market segmentation using demographics. Some vendors include Adelie, Marketing Information Systems, and Armor Systems.

- Sales analysis and forecasting systems that provide analysis on products by units or dollar volume or on sales by territory, store, or vendor and also take into account seasonality or other cyclical trends. MDS Associates and MCBA, among many other vendors, offer such systems.

- Telemarketing systems which may include script/data prompting, telephone call scheduling, automated dialing for outbound calls and lead source tracking, order entry, and tickler files for follow-up activities. These systems are often connected to a marketing data base system. Some vendors are Arlington Software and Systems, Multi Systems, and International Computerized Telemarketing, Inc.

- Prospect tracking systems that provide basic client information, contact names, latest and planned contact dates, quota and commission rates, call reports, and call analysis. Some vendors are CTek Software, Key Systems, Executive Data Systems, and Excalibur Systems, Inc.

- Management systems that assist sales and marketing managers in the evaluation and planning of marketing programs, sales performance, and product acceptance and in identifying trends and patterns. Two vendors are JEB Systems and GMD Systems International.

- Direct mail systems that process data base information on demographics and sales histories for targeted mailings, merge external lists, purge duplicate listings, and provide on-line updating capabilities. Processing vendors include Metromail, CCX Network, and MAGI, among others. Software vendors offering products include Persoft and Computron Technologies Corporation.

- In recent years there has been an increase in direct mail marketing. Shopping by mail is becoming more popular as people find less time to shop because of a career, family, or a busy social calendar. In addition to mail order catalogs, many vendors use direct mail as a relatively low-cost medium to direct promotional advertisements to customers in their geographic market area.

- Due to higher postal costs and expensive printing and publishing costs, users of direct mail processing services are demanding list segmentation to more narrowly define their audiences.

    - In addition to list segmentation based on demographics such as age, gender, zip code, etc., there is demand for integration of customer data bases that contain sales histories with the mailing list systems to produce very targeted mailings.

- Another area of interest is in portable personal computers or terminals to increase productivity of field sales and marketing representatives. These systems allow field representatives access to customer sales histories and to enter orders remotely.

    - Although there are products currently available, the market for remote communications cannot reach its potential until hardware technology advances to make portable PCs of lighter weight and less expensive. These units must also be fully functional with sufficient memory and a good screen.

- This segment includes only information services for distribution functions that are not for a specific industry. Distribution applications can also be found in the retail distribution sector, the wholesale distribution sector, and the transportation sector.

- In many industries, but especially in those where products are fairly homogeneous, vendors compete on service. These services may include expedited delivery on orders, guaranteed in-stock inventory, guaranteed delivery dates, quantity price breaks, or special billing/invoicing terms.

  - Distribution application systems such as distribution center and warehouse management systems, inventory information systems, order entry and processing systems, and billing/invoicing systems allow vendors to deliver on such extra services.

  - Distribution systems provide vendors with information on the best way to get the needed products to the proper place at the right time.

E. WORD PROCESSING

- The word processing market has matured and is approaching saturation. The growth rate of personal computer shipments has slowed, and because microcomputer word processing software shipments are linked to PC shipments, the microcomputer word processing market will also grow at a slower rate.

- The market for word processing will be negatively impacted by the electronic publishing market.

  - Desktop publishing will have a greater impact on word processing than corporate electronic publishing on mainframes or minicomputers.

F. MISCELLANEOUS

- In the late 1970s and early 1980s the concept of integrated office systems began growing. These systems provide for the integration of such functions as word processing, graphics, spreadsheets, data base management, electronic mail, and other office applications.

- Some of the problems integrated office systems (IOS) vendors are facing include the following:

  - Connectivity between systems to allow file transfer and conversion between hosts, workstations, and applications from one or more vendors. This includes:

    - Technical connectivity that enables one operating system to communicate with another.

    - Application connectivity that will ensure that boldface in a word processing document will still be boldface after the transfer or that data from a spreadsheet will be in the same corresponding cell after the transfer.

  - Integration of office automation applications while providing common user interfaces for easy access to well-developed functions.

  - Support of personal computers including PC versions of vendors' office automation operating systems to distribute office functions onto PCs. Most currently available micro-to-mainframe links do not address office automation integration needs adequately.

  - Connectivity of integrated office automation functions in a multi-vendor environment.

- Electronic mail capability beyond internal corporate users.

- Some of the more prominent IOS vendors have introduced products that begin to address the above problems.

  - IBM and minicomputer vendors introduced versions of Distributed Office Support Systems (DISOSS) in order to connect DEC, Data General, Wang, and IBM systems. They have announced support for the new peer-to-peer communications link known as LU6.2 or APPC.

    - However, DISOSS still does not provide all the connections needed or desired. In addition, DISOSS and its counterparts from minicomputer vendors are expensive and difficult to install and use.

    - Companies such as Communication Solutions and System Strategies are developing communications software to help the minicomputer vendors.

  - DEC's All-in-One electronic mail system can be linked to IBM's Professional Office System Support (PROFS) electronic mail system using Soft-Switch, Inc.'s products.

- Additional technologies to be incorporated into IOS will include:

  - Voice integration. DEC offers DECTalk which translates E-mail text into voice.

  - Image processing, i.e., scanning input devices.

  - Artificial intelligence.

- The voice mail market will be heavily impacted by the entrance of the Regional Bell Operating Companies (RBOCs) into the market.

  - RBOCs are still restricted in some of their enhanced service offerings and must wait for the resolution of the Computer Inquiry III that may affect how they will offer voice messaging and storage services.

  - Some local telephone companies, while still regulated by their state public utility commissions, are already entering the market. Their entrance has not had as dramatic an impact on current vendors as the RBOCs' entrance will have.

- As technology advances, voice mail hardware component costs are dropping. Disk storage prices are declining and compression algorithms are improving, allowing for more voice storage per megabyte per dollar.

- New applications that will need to be addressed within the next two years include:

  - Integrated voice and text services.

  - Voice recognition that eliminates manual entry of commands. This is especially useful for applications where both hands are needed for other purposes or for telephone voice inputting of data.

  - Integration of previously disparate office automation applications.

II MARKET FORECASTS

A. INTRODUCTION

- User expenditures for other cross-industry applications will grow 14% annually through 1991, increasing from $2.8 billion to $5.4 billion in 1991. For details, see Exhibits II-1, II-2, and OC-A-1.

- The mainframe/mini software market will enjoy a rapid growth rate at 25% annually from $385 million in 1986 to $1.2 billion in 1991.

- Microcomputer applications software expenditures will grow at 20%, from $570 million in 1986 to $1.4 billion in 1991.

- Turnkey systems will grow 10% annually, from $1.1 billion in 1986 to $1.8 billion in 1991.

- User expenditures for processing services will grow at a low rate of 8% annually from $683 million in 1986 to $982 million in 1991.

EXHIBIT II-1

OTHER SECTOR FORECAST
CROSS-INDUSTRY INFORMATION SERVICES
1986-1991

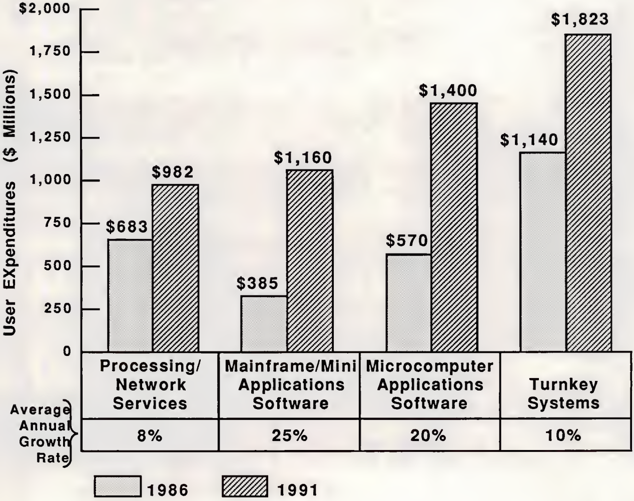
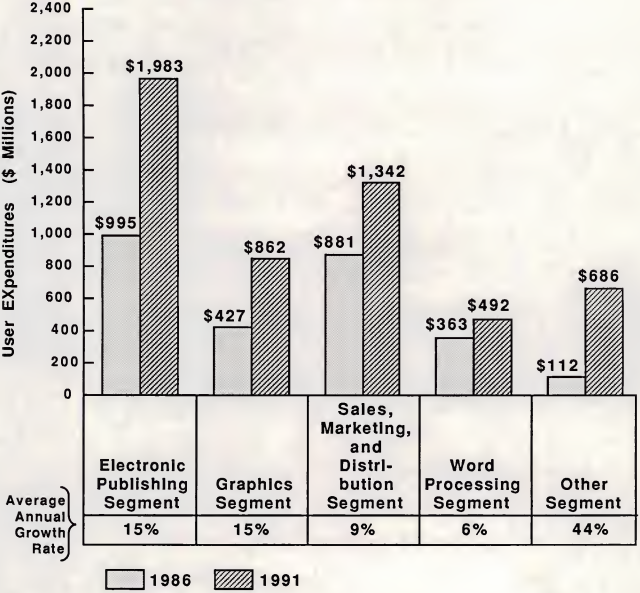


EXHIBIT II-2

OTHER SECTOR MARKET FORECAST COMPARISON CROSS-INDUSTRY INFORMATION SERVICES 1986-1991



B. PROCESSING/NETWORK SERVICES

- The application with the largest processing volumes in this sector is direct mail/mail list management.
  - Many companies are turning to direct mail as a low-cost method of reaching customers.
  - Direct mail/list management services can range from computer-generated mailing labels or personalized letters to response analysis and fulfillment tracking.
  - As postage costs increase, users are demanding extra services such as list segmentation to reach narrowly defined audiences and mail list merge/purge to avoid duplicated and outdated listings.
- Mainframe graphics processing services are declining primarily because of advancing technology that provides low-cost and high-quality graphic design at the PC level.
  - Graphics processing services will continue its decline as lower cost slidemaking devices become available.

C. SOFTWARE PRODUCTS

- Software will grow at 22% annually. Mainframe and minicomputer software expenditures will grow at a faster rate than those for the microcomputer market.
- Electronic publishing software expenditures are growing at a high rate.

- In 1985, the majority of desktop publishing software sold was Macintosh-related from Apple. In 1986, software shipments from other vendors began increasing. Apple will continue to lose market share in this market through this forecast period.

- Software for larger systems will grow at a slower rate because the potential market for such systems is much smaller. Only companies that publish large volumes of long or complex documents really need these systems.

- The growth of the desktop publishing market will negatively impact the microcomputer word processing and graphics software markets.

D. TURNKEY SYSTEMS

- The majority of turnkey systems expenditures are in the electronic publishing segment.

    - In determining the size of the turnkey systems market, all peripheral devices purchased simultaneously with the CPU and electronic publishing software are included.

    - For example, an Apple Macintosh, desktop publishing software, and an Apple LaserWriter purchased at the same time as a complete solution is included in the turnkey systems forecast. However, electronic publishing software purchased for a workstation already installed at the customer site is included in the software forecast.

- The electronic publishing turnkey systems forecast is weighted heavily by Macintosh-based systems.

- As microcomputer software vendors continue to develop and introduce desktop publishing software for the Macintosh as well as for systems by other manufacturers, the desktop publishing turnkey market will grow at a slower rate.

- Mainframe and minicomputer corporate electronic publishing turnkey systems are not expected to be similarly impacted.

E. ELECTRONIC PUBLISHING

- This segment is showing rapid growth primarily because of the novelty of the application. For details, see Exhibit II-3 and OC-A-2.

  - Electronic publishing expenditures will grow 15% annually, from $995 million in 1986 to $2.3 billion in 1991.

  - Microcomputer software will show the most rapid growth at 43% annually, reaching $507 million in 1991 from a base of $86 million in 1986.

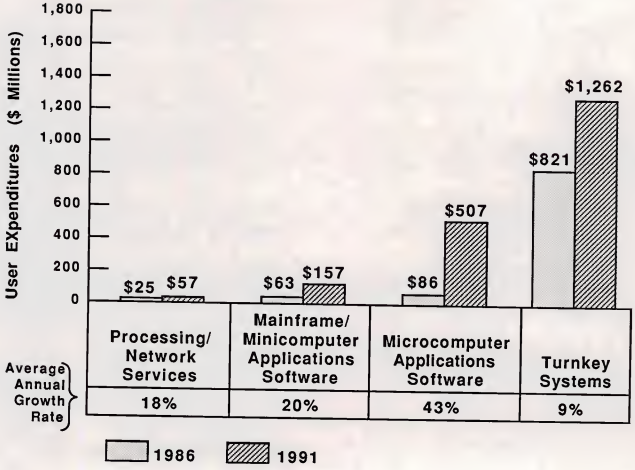
  - Mainframe and minicomputer software will grow from $63 million in 1986 to $157 million in 1991, at 20% annually.

  - User expenditures for turnkey systems will increase at a steady 9% annually from $821 million in 1986 to $1.3 billion in 1991.

- The majority of microcomputer products shipped in 1986 were related to Apple products. However, MS-DOS/PC-DOS products are being introduced at a rapid rate. The MS-DOS market is expected to surpass the Macintosh market by the end of 1987.

EXHIBIT II-3

ELECTRONIC PUBLISHING SEGMENT FORECAST
CROSS-INDUSTRY INFORMATION SERVICES
1986-1991



- Although the number of turnkey systems shipped will grow at a faster rate than 9%, for the following reasons the average price per unit will be lower, resulting in an average annual growth rate of 9% for user expenditures.

  - Competition will increase. As the market continues to grow, more vendors will offer products. Some of the more established vendors will lower prices in order to maintain market share.

  - The prices of laser printers are expected to decrease. Since the laser printer represents from 30% to 60% of the total cost for a desktop publishing system, the impact will be significant.

    - The cost to manufacture laser printers will decrease because of economies of scale and the technological improvements being made in Japan.

- The availability of software that will operate on the installed base of hardware will lower turnkey systems expenditures and increase software expenditures.

F. GRAPHICS

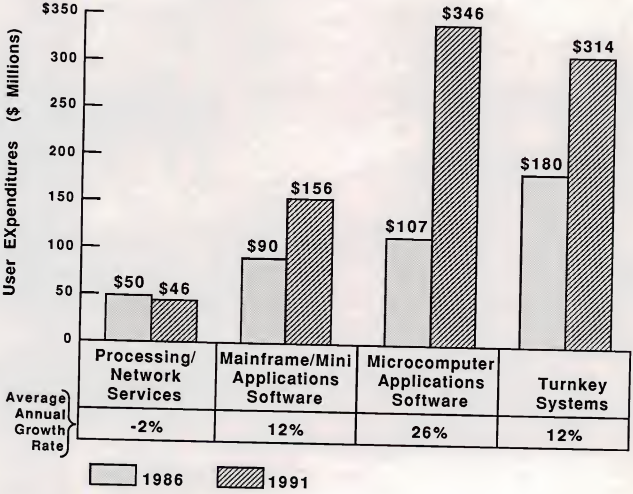
- This segment shows healthy overall growth as the market approaches adolescence, as shown in Exhibits II-4 and OC-A-3.

  - The graphics market will grow at 17% annually, from $221 million in 1986 to $487 million in 1991.

  - Processing services will decline at 2% annually, from $50 million in 1986 to $46 million in 1991.

EXHIBIT II-4

GRAPHICS SEGMENT FORECAST
CROSS-INDUSTRY INFORMATION SERVICES
1986-1991



- Mainframe and minicomputer software will grow steadily at 12% annually to reach $156 million in 1991 from a base of $90 million in 1986.

- Microcomputer software will grow rapidly at 26% annually, from $107 million in 1986 to $346 million in 1991.

- Turnkey systems will show growth at 12% annually from $180 million in 1986 to $314 million in 1991.

- The increasing quality of hardware in terms of sophistication and speed and the decreasing cost of such hardware play a major role in this segment.

- Processing services are declining because users are able to produce quality graphic designs in-house. High-quality monitors, graphic cards, and printers allow in-house production of graphics with a shorter turnaround time.

- The slow rate of decline in graphics processing is primarily due to growing demand for slidemaking services that stem from higher expectations in general for more impressive and sophisticated presentations.

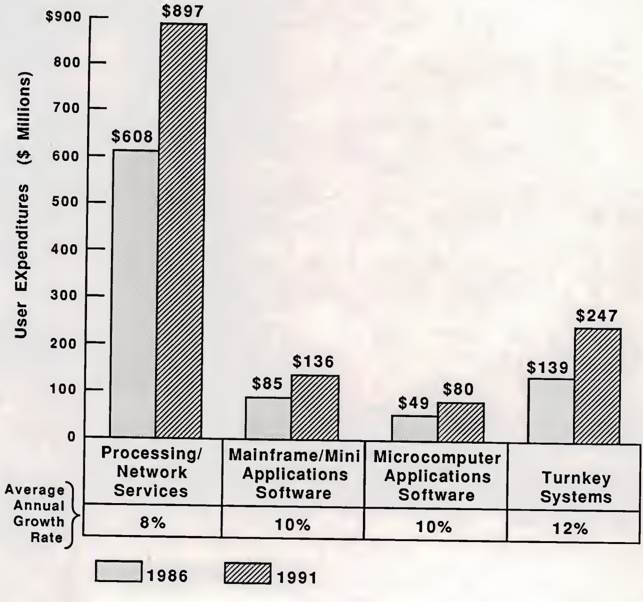
- The microcomputer software market's growth is in part due to increased use by business managers. As more managers become accustomed to using graphics for financial reporting or sales and marketing applications and presentations, the market will continue to grow.

G. SALES, MARKETING, AND DISTRIBUTION

- This segment will continue to show a slow but steady growth rate through 1990 before the growth rate increases, as shown in Exhibits II-5 and OC-A-4.

EXHIBIT II-5

SALES, MARKETING, AND DISTRIBUTION SEGMENT FORECAST
CROSS-INDUSTRY INFORMATION SERVICES
1986-1991



- Sales marketing and distribution expenditures will grow at 9% annually, from $881 million in 1986 to $1.3 billion in 1991.

- Software will grow at an annual rate of 10% to reach $216 million in 1991 from a base of $134 million in 1986.

- Turnkey systems will grow 12% annually from $139 million in 1986 to $247 million in 1991.

- The sales and marketing market does show potential in the future, but the following reasons dictate its current slow growth:

  - Although many companies are considering or investigating sales and marketing application systems, the selection and evaluation process is very slow and not considered high priority. As a result, purchasing decisions for such systems are often delayed for higher priority projects.

  - There is low motivation to automate sales and marketing functions within most companies. A contrasting example is the insurance industry where insurance companies want to automate their independent agents and brokers. Some of the larger insurance companies provide low-cost financing and other financial incentives on software and turnkey systems to motivate their agents to automate and provide additional productivity.

  - Some decisionmakers are not computer proficient and do not perceive a need to automate. As younger workers who grew up with computers join the sales force, sales and marketing functions will be automated at a faster rate.

- Because sales and marketing managers have successfully adopted general applications systems such as spreadsheets for sales forecasting, graphics or desktop publishing for proposals and presentation materials, and data base management systems for client data bases and sales tracking, the perceived need for specialized applications is low.

H. WORD PROCESSING

- This segment will grow at a slow rate, primarily because of the slowing growth rate of personal computer shipments, as shown in Exhibits II-6 and OC-A-5.

  - Mainframe and minicomputer software expenditures will decline 7% annually, from $35 million in 1986 to $25 million in 1991.

  - Microcomputer software will increase 7% annually, from $328 million in 1986 to $467 million in 1991.

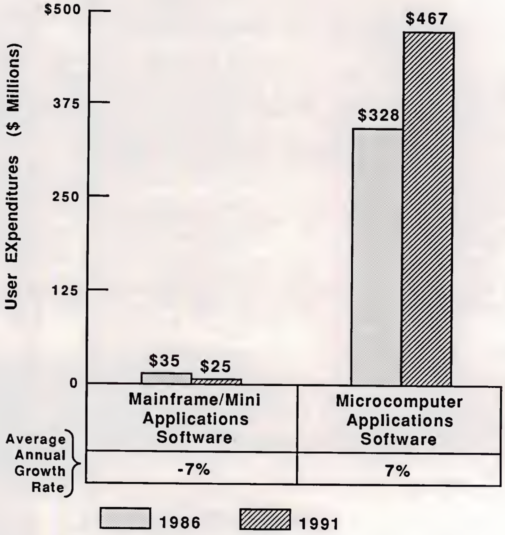
- Most microcomputer word processing packages will be first-time purchases, although a large part of the market is from upgrading of existing packages or switching from one package to another.

- Mainframe and minicomputer word processing expenditures will be impacted by corporate electronic publishing systems as well as continued migration of word processing functions to the personal computer level.

- Software that allows the uploading of data from PCs to mainframes and minicomputers, especially without having to reformat the data, is in demand.

EXHIBIT II-6

WORD PROCESSING SEGMENT FORECAST
CROSS-INDUSTRY INFORMATION SERVICES
1986-1991



I. MISCELLANEOUS

- The forecast for this segment includes the software to support internal voice mail, based on INPUT's estimate of the value of the software sold as part of a system, internal electronic mail software systems, and integrated office software systems. The balance of electronic mail is included in the remote computing services segment.

- Rapid growth in software expenditures due to advancing technology and increasing user acceptance will be partially offset by a move to voice and electronic mail service bureaus, especially after the RBOCs enter the market.

- Until workable solutions for connectivity between PCs, multivendor systems, and other integrated office systems become available, the market for IOS will show slow growth.

III COMPETITIVE DEVELOPMENTS

A. INTRODUCTION

- The electronic publishing market is characterized by the following:

  - Corporate electronic publishing: a small number of medium-sized vendors and a larger number of small vendors.

    - Leaders in this market include Interleaf, Camex, Texet, Kodak, Xyvision, and Xerox.

  - Desktop publishing: a pyramid consisting of a few large vendors, several medium-sized vendors, and a multitude of small vendors.

    - Leaders in this market include Apple, Adobe Systems, Aldus, Xerox/Ventura Software, and Software Publishing.

- The graphics market is characterized by a few well established vendors and many small vendors.

  - Leaders in the mainframe and minicomputer market include IBM, SAS Institute, ISSCO, Precision Visuals, SPSS, and Hewlett-Packard.

- Leaders in the microcomputer market include Decision Resources, Graphic Communications, Microsoft, and Software Publishing.

- The sales and marketing market is made up of many small vendors.

  - Several large vendors dominate the direct mail/mail list management market. These include CCX Network, LCS Industries, MAGI, Metromail, and Wiland Services.

- The distribution market consists of small- to medium-size vendors specializing in distribution applications and several large vendors who include distribution applications in their product lines.

  - Leaders in this market include Distribution Management Systems, Distribution Sciences, GSI Transcomm, American Software, Management Science America, Numerax, and Rand Information Systems.

- The word processing segment includes several well established vendors and many small vendors.

  - Leaders in this market include IBM, Micropro, Multimate, Microsoft, Wordperfect, Software Publishing, Lifetree, and Samna.

- The integrated office systems market is primarily comprised of large hardware manufacturers.

  - Some vendors and systems include IBM's PROFS, DEC's All-in-One, Data General's Comprehensive Electronic Office (CEO), Wang's Wang Office, and Prime's Office Automation Systems (OAS).

- The voice mail segment includes a few major vendors and several smaller vendors.

- Leaders in this market include Rolm, VMX, Octel, Opcom, and AT&T.

- Additionally, service bureaus using equipment from these vendors have been established.

• Electronic publishing companies have been very successful in attracting venture capital.

  - However, many of these same companies were profitable for the first time in fiscal 1986, and some have yet to show a profit.

  - Several vendors made initial public offerings of stock in 1986.

    . Adobe Systems' stock prices have increased dramatically since its stock began trading in August 1986.

    . Interleaf sold 31% of the company in its IPO in June 1986 after reporting a $2.4 million loss for the fiscal year ended March 31, 1986. Results for the first nine months of fiscal 1987 indicate that Interleaf may be close to breakeven for the year.

    . Xyvision's stock has increased approximately 35% from $13.50 a share since its IPO in October 1985.

• In the graphics market there has been a flurry of acquisitions of leading graphics vendors.

  - In June 1986, Graphic Communications was acquired by Lotus.

  - In September 1986, Decision Resources was acquired by Ashton-Tate.

  - In December 1986, ISSCO was acquired by Computer Associates.

- Software Publishing acquired Harvard Software in August 1985 and desktop publishing software from T/Maker and Bestinfo in June 1986.

- In December 1986, Pansophic made an offer to acquire SPSS but later decided not to continue negotiations.

B. VENDOR PROFILES

1. ADOBE SYSTEMS INCORPORATED

(1870 Embarcadero Road, Palo Alto, CA 94303)

a. Products/Services

- Adobe designs, develops, and markets systems software used in laser printers, typesetters, and other raster output devices to print integrated text and graphics for electronic printing and publishing applications.

  - The company's principal product, the PostScript interpreter, executes page descriptions generated from application programs that support the PostScript page description language to produce documents containing multiple typefaces and graphics.

  - TranScript, another software product, allows the UNIX-based host composition language, troff (typesetting run off), to drive printers using PostScript.

  - Adobe Illustrator, an application software product introduced in March 1987, is an art production tool for producing high-quality line art and illustrations.

- Adobe also markets PostScript-compatible typeface packages on floppy disks.

b. Markets Served

- Adobe markets PostScript to computer, printer, and typesetter manufacturers who are original equipment manufacturers (OEMs).

- TranScript and the typefaces are sold to OEMs and end users.

c. Company Strategy

- Since one of Adobe's goals is to promote the PostScript language as an industry standard, Adobe has placed the PostScript language in the public domain.

d. Recent Activities

- In August 1986, Adobe made an initial public offering of 500,000 shares of common stock.

- Fiscal 1986 revenue reached \$16 million, a 248% increase over fiscal 1985 revenue of \$4.6 million.

e. Future Directions

- Adobe will expand its system software technology into related electronic printing markets and will develop new products for selected end-user markets.

2. INTERLEAF, INC.
(Ten Canal Park, Cambridge, MA 02141)

a. Products/Services

- Interleaf markets turnkey systems that are based on Interleaf's two software products. Turnkey systems are available in a networked or standalone configuration.

  - Technical Publishing Software (TPS$^{T.M.}$) is designed for use by publication departments or groups that require sophisticated composition and pagination features.

    - A TPS turnkey system includes a 32-bit workstation, a bit-mapped screen, a laser printer, and other peripheral devices. TPS is currently available on workstations manufactured by Sun, IBM, DEC, and Apollo Computer, Inc.

  - Workstation Publishing Software (WPS$^{T.M.}$) is designed for use by workstation users who do not require all the features available on TPS. The typical WPS user has purchased a workstation for some other primary application and acquires WPS as an ancillary documentation tool.

    - WPS is available on 32-bit workstations from most major manufacturers.

- Interleaf also markets its software through original equipment manufacturers (OEMs).

b. Markets Served

- Interleaf markets to two segments of the computer-aided publishing market.

- TPS is primarily marketed in the technical documentation market to corporations and government agencies. Technical documentation includes designs, drawings, and manuals for commercial products, scientific and engineering reports, and technical bids and proposals.

- Both TPS and WPS are marketed in the office publishing market to manufacturers, banks, insurance companies, investment banking firms, and consulting firms. Office publishing that is enhanced by the integration of graphics and text includes proposals, client reports, brochures, price lists, and memoranda.

c. Company Strategy

- Interleaf follows a strategy of hardware independence, operating on workstations from a variety of manufacturers.

d. Recent Activities

- In June 1986, Interleaf made an initial public offering of three million shares of common stock.

- Fiscal 1987 revenue is estimated at $36 million, an increase over fiscal 1985 revenue of $18.6 million.

e. Future Directions

- Interleaf will continue to develop enhancements and features for its products and to port Interleaf software to additional workstations.

3. PENTA SYSTEMS INTERNATIONAL, INC.
(309 East Federal Street, Baltimore, MD 21202)

a. Products/Services

- Penta develops, markets, and supports turnkey systems for composition, processing, and electronic pagination of printed materials.

  - Penta's turnkey systems, marketed under the trade name Penta-Modulus, are based on the full line of Data General Eclipse MV hardware and Penta's application software.

  - Penta provides two types of turnkey systems as follows:

    - PentaQuick composition systems automate most of the functions necessary to produce typography.

    - PentaEditorial systems automate most of the functions necessary to edit, analyze, revise, and refine text.

  - Penta offers optional software and hardware and software terminals designed to perform certain specialized text processing tasks for both editorial and composition systems.

    - Text composition products include PentaPage, PentaSaturn, PentaVision, PentaVision+, PentaMath, and PentaPrint.

    - Data base products include PentaBase, PentaSort, PentaLogue, PentaSpell, PentaIndex, and PentaLabel.

    - Telecommunications products include PentaLink, PentaComm, PentaCommpc2, PentaTele/Media, and PentaWord.

- Networking/distributed processing products include PentaPair, PentaPlus, CEO Interface, and DeltaLink.

b. Markets Served

- Penta sells to two categories of users which include commercial typesetters and businesses with in-house editorial and typesetting requirements.

- Penta also targets vertical markets within each category of users as follows:

  - Commercial typesetting: advertising typesetters, general typographers, and others.

  - General business: manufacturing, insurance, banking/finance, service organizations, printers, and publishers.

c. Company Strategy

- Penta positions its systems as general purpose systems that can be adapted for different uses including commercial typesetting, corporate publishing, technical documentation, and book publishing.

d. Recent Activities

- In May 1986, the trade name PentaModulas was introduced when Penta added a low-end system to encompass the full line of Data General Eclipse MV hardware.

- Revenue in 1986 is estimated at $22 million.

e. Future Directions

- Penta plans to address the need for software to operate on a variety of computers including personal computers and to develop a better interface for the PC marketplace, using direct interface rather than the translation or conversion systems currently in use.

- Penta also plans to increase and refine its interfaces to output devices, specifically for on-demand printers.

4. DECISION RESOURCES, INC.
(25 Sylvan Road South, Westport, CT 06880)

a. Products/Services

- Decision Resources provides microcomputer graphics applications software products.

  - Decision Resources offers four graphics packages which include CHART-MASTER, SIGN-MASTER, DIAGRAM-MASTER, and MAP-MASTER.

b. Markets Served

- The company markets its software across all industry sectors in the U.S. and internationally through original equipment manufacturers (OEMs) and distributors.

c. Company Strategy

- Decision Resources will continue to develop and regularly improve its product line in order to provide business people with the tools that fulfill their communications needs.

d. Recent Activities

- Decision Resources was acquired by Ashton-Tate in September 1986.

- Also in September 1986, the company adopted the trade name Master Graphics for its product line.

- In April 1986 Decision Resources began shipping MAP-MASTER.

- Revenue for the 12-month period ending June 30, 1986 was $13 million.

e. Future Directions

- In the near future, Decision Resources plans to introduce products and services that complement and supplement its current line of products.

5. GRAPHIC COMMUNICATIONS, INC.
(200 Fifth Avenue, Waltham, MA 02254)

a. Products/Services

- Graphic Communications, Inc. (GCI) provides microcomputer graphics software products.

- The company offers two packages.

  - Graphwriter creates standard business charts and graphs.

  - Freelance is a freeform graphics package.

b. Markets Served

- GCI markets its products across all industry sectors.

c. Company Strategy

- The company will continue to promote its products' integration ability between each other, Lotus Development Corporation products, and software from other developers.

d. Recent Activities

- GCI was acquired by Lotus Development Corporation in June 1986. Lotus has introduced Graphwriter and Freelance to its corporate accounts and dealer base.

- Graphic Communications' 1986 revenue is estimated at $9 million.

e. Future Directions

- GCI will continue to concentrate on creating special graphics from spreadsheet data and graphs.

- GCI is also addressing graphics for forms, memos, poster boards, and similar types of visual communication as well as the desktop publishing market.

6. INTEGRATED SOFTWARE SYSTEMS CORPORATION (ISSCO)
(10505 Sorrento Valley Road, San Diego, CA 92121)

a. Products/Services

- ISSCO develops, markets, and supports a family of integrated computer graphics software products for business and scientific applications.

- ISSCO's software products operate on 32-bit or larger minicomputers or mainframes including Apollo, Control Data, Cray, DEC, Hewlett-Packard, Honeywell, IBM, Perkin-Elmer, Prime, and Unisys.

    - One software product, DISSPLA, has been ported to the 16-bit IBM PC AT.

- ISSCO's family of integrated software, known as IVISS T.M. (Integrated Visual Information Systems Software), consists of graphics software, system integration software for integrating ISSCO's products with other software and hardware, and applications software for graphic enhancement of other applications. The line of software consists of the following component products:

    - DISSPLA® (Display Integrated Software System and Plotting Language).

    - TELL-A-GRAF®.

    - CUECHART T.M..

    - THE DATA CONNECTION T.M..

    - TELLAPLAN®.

    - IVISS MANAGER T.M..

    - TABLES T.M..

    - MegaCalc T.M..

    - DYNAMICS.

- GKS.

- PINPOINT.

- PC LINK A GRAF.

- CUECHART CHARTBOOK LIBRARY.

- Lotus-to-TELLAGRAF Link.

b. Markets Served

- ISSCO's software products are marketed to large- and medium-size organizations in a variety of industry sectors. The software is used for business or engineering/scientific applications.

c. Company Strategy

- ISSCO plans to incorporate data base software technology in future application products in order to further expand its product line beyond graphics software.

d. Recent Activities

- In June 1986, ISSCO completed its acquisition of a 60% interest in Mimer Information Systems AB, a Swedish developer and marketer of integrated relational data base computer software.

- In December 1986, ISSCO was acquired by Computer Associates International, Inc. for $69.3 million.

- ISSCO's 1986 revenue is estimated at $43 million.

e. Future Directions

- ISSCO's research and development focus is on mainframe/workstation combinations to allow users to make graphs locally on workstations and then print them out on the graphics output devices that are hooked up to the mainframe.

7. ADELIE CORPORATION
(125 Cambridge Park Drive, Cambridge, MA 02140)

a. Products/Services

- Adelie markets sales and marketing productivity software products and provides consulting and education and training services associated with its software.

- Adelie's primary product is CLOSE, an integrated sales and marketing productivity software system composed of five modules and integrated through the CLOSE marketing data base.

  - The five modules include the Sales System, the Telemarketing System, the Direct Mail System, the Response System, and the Management System.

  - CLOSE operates on IBM 370 and larger computers and the Prime 50 series. CLOSE is also available in a network environment.

b. Markets Served

- Adelie markets its products across all industry sectors. Adelie targets sales and marketing departments within companies that have IBM mainframes, primarily Fortune 1000 companies.

c. Company Strategy

- Adelie positions itself as the largest company to offer sales and marketing productivity software in the IBM mainframe environment.

d. Recent Activities

- Revenue in 1986 is estimated at $6 million, a 300% increase over 1985 revenue of $1.5 million.

e. Future Directions

- Adelie is developing a version of CLOSE to operate in a distributed processing environment based on IBM mainframes using a UNIX operating system.

8. DISTRIBUTION MANAGEMENT SYSTEMS, INC.
(81 Hartwell Avenue, Lexington, MA 02173)

a. Products/Services

- Distribution Management Systems (DMS) markets applications software packages for warehouse management functions required by medium and large multilocation companies.

- DMS' software products operate on the DEC VAX family of computers (MicroVAX II to 8800) and/or IBM systems (primarily the 4300 and 30XX series).

- The software products are marketed under the name IMPACT. Applications available include the following:

  - IMPACT/Order Management.

  - IMPACT/Warehouse Management.

- IMPACT/Distribution Center Management.

- IMPACT/Sales Forecasting.

- IMPACT/Distribution Resource Planning.

- IMPACT/Application Expert.

  . OrderEXL T.M. .

  . SalesEXL T.M. .

  . Voice EXL T.M. .

b. Markets Served

- DMS markets its software products to medium and large multilocation companies in various industries, including the automotive aftermarket, pharmaceutical, manufacturing, electronics, utility, chemical, consumer product, and food industries.

c. Company Strategy

- DMS has extended its product line to take advantage of the newest technology--expert systems. By incorporating expert systems technology, DMS positions itself to lead the market in distribution software as the industry matures.

d. Recent Activities

- Fiscal 1986 revenue reached $13 million, a 50% increase over fiscal 1985 revenue of $9 million.

- In February 1987, Cullinet announced its intention to acquire DMS for approximately $18 million in stock.

9. METROMAIL CORPORATION
(901 West Bond Street, Lincoln, NE 68521)

a. Products/Services

- Metromail provides direct mail list development and enhancement processing services as well as noncomputer services, related mail production, and directory publishing services.

- Metromail maintains a data base of about 78 million U.S. households (more than 90% of total U.S. households).

  - List development services include customized lists and pre-compiled or packaged lists of consumers/households with the common characteristics clients have selected from various criteria categories.

  - List enhancement services include the combining of the client's lists into one list, elimination of duplicates or nonresponders, and correction of addresses and ZIP codes. Items from Metromail's master file, such as telephone numbers, may be added to the client file.

b. Markets Served

- Metromail provides its services primarily to consumer goods manufacturers, magazine publishers, mail order merchandisers, financial service institutions, not-for-profit organizations, and market research firms.

c. Company Strategy

- Metromail will continue selective acquisition of other direct marketing firms.

- Metromail will add new products and services to appeal to nonseasonal markets in order to increase business in its traditionally lower production periods.

d. Recent Activities

- In January 1985, Metromail acquired Market Development Corporation, a list compilation firm. Its operations have been merged into Metromail's.

- Fiscal 1986 revenue was $86.5 million.

10. WORDPERFECT CORPORATION
(266 West Center Street, Orem, UT 84057)

a. Products/Services

- WordPerfect Corporation provides applications software products for minicomputers and microcomputers.

  - The company's primary product is WordPerfect, a word processing package.

  - Additional products include the following:

    - Student WordPerfect is a student version of WordPerfect.

    - MathPlan is a spreadsheet program.

    - SSIDATA is a data base tool.

    - WordPerfect Library is a collection of programs designed to integrate other WordPerfect Corporation programs and facilitate sharing of data and switching of programs.

- Features include the shell which is a program manager, a calculator, a file manager, a program editor, a calendar, a notebook, and a macro editor.

b. Markets Served

- WordPerfect markets its products across all industry sector. The company sells to educational institutions and large end-user corporations and through various distribution channels in the U.S. and internationally.

c. Company Strategy

- WordPerfect will continue emphasis on its distribution network. All sales, including those to end-user corporations and educational institutions, are made through dealers and distributors.

- The company also plans to increase emphasis on sales to large corporations.

d. Recent Activities

- WordPerfect rounded out its product line with the introduction of DataBook, a data base management system, in November 1986.

  - The company's WordPerfect word processing system, MathPlan spreadsheet system, and DataBook data base management system can be integrated using WordPerfect Library.

- Revenue in 1986 reached $52.2 milion, a 127% increase over 1985 revenue of $23 million.

IV NEW OPPORTUNITIES

- Since the electronic publishing market is still in the infancy stage, there are many opportunities for vendors.

  - Barriers to enter this market are not yet unsurmountable since technology in both software and hardware are still evolving and market share for any one particular vendor is still very low.

  - However, vendors may find it difficult to be heard over the noise in this market. Because the market is so new, much attention has been given to electronic publishing, and good sales, marketing, and advertising strategies will play a heavy role in success.

- Freeform graphics is an opportunity for graphics information services. There is a demand for sophisticated systems that allow users to draft art directly on screen.

- An opportunity for vendors specializing in presentation graphics or targeting education and training applications is video graphics systems. This involves combining personal computers, software, video cameras, disk players, and large screen projectors into one system that will merge computer-generated graphics with live or recorded video images.

- In the sales, marketing, and distribution arena, list management processing services that integrate with data base management systems (marketing data base systems) are in demand.

- The U.S. Postal Service's new national change of address file presents new opportunities for mail list management vendors. The new file will provide these vendors with a major resource to track current customers as well as identify prospects for mailings.

- Telemarketing systems that address the growing interest in telephone sales and marketing is another opportunity.

APPENDIX OC-A: FORECAST DATA BASE

- This appendix contains the following forecast information, as shown in Exhibits OC-A-1 through OC-A-6.

  - Market size by delivery mode for each year from 1985-1991.

  - Market growth rate for 1985-1991.

  - Average annual growth rate (AAGR) for each delivery mode for the five-year period 1986-1991.

EXHIBIT OC-A1

OTHER CROSS-INDUSTRY USER EXPENDITURE FORECAST BY DELIVERY MODE, 1986-1991

DELIVERY MODE	($M) 1985	Percent Growth 1985-1986	($M) 1986	($M) 1987	($M) 1988	($M) 1989	($M) 1990	($M) 1991	Percent AAGR 1986-1991
Processing/Network Services	651	5	683	725	778	841	910	982	8
Applications Software									
- Mainframe/Mini	311	24	385	493	627	785	967	1,160	25
- Micro	460	24	570	708	890	1,054	1,213	1,400	20
Total Applications Software	771	24	955	1.201	1,517	1,830	2,180	2,560	22
Turnkey Systems	1,042	9	1,140	1,245	1,347	1,480	1,632	1,823	10
Total	2,464	13	2,778	3,171	3,642	4,160	4,722	5,365	14

EXHIBIT OC-A2

OTHER CROSS-INDUSTRY SECTOR
ELECTRONIC PUBLISHING

SEGMENTATION BY DELIVERY MODE	($M) 1985	Percent Growth 1985-1986	($M) 1986	($M) 1987	($M) 1988	($M) 1989	($M) 1990	($M) 1991	Percent AAGR 1986-1991
Processing/Network Services	20	25	25	30	36	43	50	57	18
Applications Software									
- Mainframe/Mini	50	26	63	82	105	122	139	157	20
- Micro	50	72	86	152	256	334	422	507	43
Total Applications Software	100	49	149	234	361	456	561	664	35
Turnkey Systems	749	10	821	897	968	1,057	1,147	1,262	9
Total	869	14	995	1,161	1,365	1,556	1,758	1,983	15

EXHIBIT OC-A3

OTHER CROSS-INDUSTRY SECTOR GRAPHICS

SEGMENTATION BY DELIVERY MODE	($M) 1985	Percent Growth 1985-1986	($M) 1986	($M) 1987	($M) 1988	($M) 1989	($M) 1990	($M) 1991	Percent AAGR 1986-1991
Processing/Network Services	48	4	50	51	50	49	48	46	-2
Applications Software									
- Mainframe/Mini	80	13	90	102	114	127	141	156	12
- Micro	78	37	107	143	187	239	287	346	26
Total Applications Software	158	25	197	245	301	366	428	502	21
Turnkey System	165	9	180	197	215	240	273	314	12
Total	371	15	427	493	566	655	749	862	15

EXHIBIT OC-A4

OTHER CROSS-INDUSTRY SECTOR SALES, MARKETING, AND DISTRIBUTION

SEGMENTATION BY DELIVERY MODE	($M) 1985	Percent Growth 1985-1986	($M) 1986	($M) 1987	($M) 1988	($M) 1989	($M) 1990	($M) 1991	Percent AAGR 1986-1991
Processing/Network Services	583	4	608	644	692	749	812	879	8
Applications Software									
- Mainframe/Mini	78	9	85	93	102	112	123	136	10
- Micro	45	9	49	53	58	64	70	80	10
Total Applications Software	123	9	134	146	160	176	193	216	10
Turnkey Systems	128	9	139	151	164	183	212	247	12
Total	834	6	881	941	1,016	1,108	1,217	1,342	9

EXHIBIT OC-A5

OTHER CROSS-INDUSTRY SECTOR
WORD PROCESSING

SEGMENTATION BY DELIVERY MODE	($M) 1985	Percent Growth 1985-1986	($M) 1986	($M) 1987	($M) 1988	($M) 1989	($M) 1990	($M) 1991	Percent AAGR 1986-1991
Applications Software									
- Mainframe/Mini	38	-8	35	32	30	28	26	25	-7
- Micro	287	14	328	360	389	417	434	467	7
Total Applications Software	325	12	363	392	419	445	460	492	6
Total	325	12	363	392	419	445	460	492	6

EXHIBIT OC-A6

OTHER CROSS-INDUSTRY SECTOR
MISCELLANEOUS

SEGMENTATION BY DELIVERY MODE	($M) 1985	Percent Growth 1985-1986	($M) 1986	($M) 1987	($M) 1988	($M) 1989	($M) 1990	($M) 1991	Percent AAGR 1986-1991
Applications Software - Mainframe/Mini	65	72	112	184	276	396	538	686	44
Total Applications Software	65	72	112	184	276	396	538	686	44

APPENDIX OC-B: FORECAST RECONCILIATION

- This appendix contains the following information:

  - Exhibit OC-B-1 indicates the changes made in the 1986 forecast compared to the 1985 forecast.

EXHIBIT OC-B1

OTHER CROSS-INDUSTRY DATA BASE RECONCILIATION OF MARKET FORECAST BY DELIVERY MODE

DELIVERY MODE	1985 Market			1990 Market			1985-1990 Percent AAGR Forecast in 1985 Report	1986-1991 Percent AAGR Forecast in 1986 Report
	($M) 1985 Forecast	($M) 1986 Report	Variance as Percent of 1986 Report	($M) 1985 Forecast	($M) 1986 Forecast	Variance as Percent of 1986 Forecast		
Processing/Network Services	372	651	-43	710	910	-22	14	8
Application Software								
- Mainframe/Mini	170	311	-45	364	967	-62	16	25
- Micro	386	460	-16	950	1,213	-22	20	20
Total Applications Software	556	771	-28	1,314	2,180	-40	19	22
Turnkey Systems	1,089	1,042	5	2,230	1,632	37	15	10

About INPUT

INPUT provides planning information, analysis, and recommendations to managers and executives in the information processing industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions. Continuing services are provided to users and vendors of computers, communications, and office products and services.

The company carries out continuous and in-depth research. Working closely with clients on important issues, INPUT's staff members analyze and interpret the research data, then develop recommendations and innovative ideas to meet clients' needs.

Clients receive reports, presentations, access to data on which analyses are based, and continuous consulting.

Many of INPUT's professional staff members have nearly 20 years' experience in their areas of specialization. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed in 1974, INPUT has become a leading international planning services firm. Clients include over 100 of the world's largest and most technically advanced companies.

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